

former had no means of escape, and in a short time it was literally cut to pieces by the repeated attacks of the animal.

I do not believe he fed upon any portion of the *Ophiurus*, but merely destroyed it because it came in its way.

Though possessing a voracious appetite, feeding greedily on *Actiniæ* and similar forms, it can live very well upon animalcula in the water, as I have kept it without food for days together.

When swimming about, the fins or gills, five rows of which are placed under the belly of the creature, present a most beautiful appearance, resembling the finest feathers.

The *Gonodactylus chiragra's* death was caused by the poisonous gases evolved from a *Holothurium* which died one night in the aquarium.

5. On a Collection of Coleoptera from Formosa, sent home by R. Swinhoe, Esq., H.B.M. Consul, Formosa. By H. W. BATES, F.Z.S.

Mr. Swinhoe having kindly forwarded to me a collection of Coleopterous Insects made by himself in different parts of the island of Formosa, with a request that I would report upon its contents to the Zoological Society, I now proceed to give the results of my examination. The collection, although consisting of a very large number of specimens, contains only 285 species; the materials therefore cannot afford us so ample an illustration of the Coleopterous Fauna of the island as could be wished, seeing that a region so varied in its physical conditions and lying partly within the tropics must nourish many thousand species of this order of insects. The following is an enumeration of the representatives of the different families;—

<i>Cicindelidæ</i>	8	<i>Histeridæ</i>	1	<i>Rhynchophora</i>	27
<i>Carabidæ</i>	18	<i>Lamellicornes</i>	47	<i>Anthribidæ</i>	3
<i>Dyticidæ</i>	6	<i>Lucanidæ</i>	7	<i>Longicornes</i>	34
<i>Gyrinidæ</i>	1	<i>Serricornes</i>	16	<i>Phytophaga</i>	62
<i>Brachelytra</i>	1	<i>Malacodermes</i>	7	<i>Languriæ</i>	1
<i>Dermestidæ</i>	2	<i>Cleridæ</i>	4	<i>Coccinellidæ</i>	7
<i>Bostrichidæ</i>	1	<i>Heteromera</i>	32		

In a first collection made by a person not especially occupied with entomology there must necessarily be a considerable proportion of common and widely distributed species, as these, in tropical countries, are such as are found in the neighbourhood of dwellings and plantations, and therefore are the first to attract attention. This is so in the present case, about one-half of the species sent being already known as inhabiting the neighbouring continent or the islands of the Malay archipelago. The other half are probably new; but many of them belonging to difficult and hitherto unworked groups, cannot be at present satisfactorily decided upon. I do not find in the collection, what I had hoped for, any traces of great peculiarity in the

Formosan fauna as regards the Coleoptera. Of thirty-eight new species which I have to describe (excluding for the present the obscure groups as already mentioned), sixteen are closely allied to known Chinese specific forms, fourteen to species more widely distributed over Eastern Asia, two to Philippine Island forms, and six only are not very closely allied to any known species; these latter, however, are not strikingly peculiar, and have their nearest allies in Tropical Asian forms. The relations of the known species are not very different from those of the new ones. Thus, out of the sixty-nine known species which I have determined with the help of a few entomological friends who study special groups, no less than forty-seven are Chinese, twenty-six of wider distribution, or found in other parts of Tropical Asia, but not in China, and three Japanese or Japanese and Chinese. It must be borne in mind that we are at present very imperfectly acquainted with the insects of China; and consequently the relations of the two faunas may be still more intimate. In the letter which accompanied the collection, Mr. Swinhoe mentioned a species of *Damaster*, a highly peculiar Japanese generic form, as contained in the boxes. I have not succeeded in finding this insect in the collection, and am afraid it is lost, as the boxes were opened in transit. The discovery of a *Damaster* in the island of Formosa would have been the most interesting fact to record in a paper on the Coleoptera of the island.

The friends who have assisted me in the determination of the new species are Major F. J. S. Parry in the *Lucanidæ*, Mr. J. S. Baly in the *Phytophaga*, and Mr. Janson in the *Elateridæ*. All these gentlemen kindly allowed me to examine the type specimens of described Chinese and Asiatic species in their collections.

CICINDELIDÆ.

CICINDELA KALEEA.

Gracilis, thorace unguato, subcylindrico, medio paulo latiore; capite thoraceque minutissime crebre punctatis, opacis, obscure cupreis; elytris nigris, opacis, leviter viridi-æneo tinctis, sparsim punctatis, macula parva humerali, tribus discoidalibus quarum duabus posterioribus interdum connexis, lineola marginali alteraque apicali virguliformi albis; capite inter oculos modice depresso, multistrigoso; labro testaceo (♂), medio producto et sinuato-truncato, dente parvo acuto; antennis modice elongatis; corpore subtus pedibusque elongatis, viridi-æneis.

Long. $4\frac{1}{2}$ lin., ♂.

A slender species, allied to the group to which *C. argentata* (Fab.) belongs, but of a more elongate form, with head more depressed between the eyes, and thorax more elongate and cylindrical. The colours are obscure, and the surface of the elytra very opaque. The labrum (in the male) is transverse, produced in the middle, with the front edge of the produced part sinuate truncate, and having a small tooth in the middle of the truncature; but the lateral angles of the truncature are not dentiform. The elytra have a sutural spine; their

surface is marked with a number of shallow scattered punctures, having a brassy greenish tinge. The white spots are sometimes more and sometimes less developed; the anterior discoidal spot is sometimes linear, and clavate at its posterior end; it is the hinder portion of what in other species is the humeral lunule; the lateral line is sometimes absent; the apical virgula narrows off, and does not reach the sutural angle.

CICINDELA PSILICA.

Gracilis, thorace cylindrico, angusto; capite thoraceque tenuiter strigosis, aureo-cupreis, late cyaneo marginatis; elytris obscure cupreis, sutura viridi, lateribus cyaneo limbatis, æqualiter distincte punctatis, lunula humerali brevi, macula parva transversa laterali apud medium alterisque duabus apicalibus albis; capite inter oculos valde depresso, utrinque multistriato; labro utroque sexu testaceo, medio dente valido, margine anteriore recto, angulis lateralibus distinctis; antennis gracilibus, elongatis; elytris dente suturali acuto; subtus pedibusque elongatis viridi-æneis.

Long. $4\frac{1}{2}$ lin., ♂ ♀.

Closely allied to *C. craspedota*, Schaum, from Celebes, differing in being rather more elongated, with the elytra opaque instead of shining, and in having a humeral lunule and a spot at the sutural apex of the elytra. The thorax is elongate, narrow, and almost perfectly cylindrical. The head is strongly depressed between the eyes; the labrum has in both sexes a longish central tooth, and its front edge forms a straight line from the tooth to the lateral angles, which are distinct. The antennæ are long and slender; the palpi pale yellow, with the terminal joints brassy green. The head and thorax are of a rather bright coppery hue with a golden tinge, and with their sides broadly margined with greenish blue. The elytra are dull copper, and uniformly covered with largish and distant punctures; the suture is shining green, and the lateral borders dark greenish blue; the humeral lunule is short and slender, the marginal spot in the middle is broader than long, the subapical marginal spot is small and reniform.

COLLYRIS FORMOSANA.

Cyanea, nitida, elytris viridi-cæruleis, capite et thorace læte violaceis, labro chalybeo; antennis subelongatis, articulis basilibus cyaneis, 3^o-7^m rufo-piceis (cætera desunt); capite pone oculos subquadrato, angulis rotundatis, fronte bisulcata, interstitio longitudinaliter elevato; thorace capite paulo longiore, prope apicem et basin modice strangulato, parte media rotundata; elytris æqualiter usque ad apices punctatis, apice (♀) flexuoso-truncutis, angulo suturali producto; femoribus anticis et intermediis rufis, geniculis cum tibiis et tarsis piceis; pedibus posticis nigris, femoribus basi rufis, trochanteribus omnibus rufis.

Long. 7 lin., ♀.

Similar in shape to *C. filiformis*, Chaud. (Ann. Soc. Ent. Fr. 1864,

pl. 8. f. 9); head distinctly longer behind the eyes, but similar in outline; thorax rather more abruptly narrowed anteriorly, smooth and glossy violet (together with the head), and having very few punctures, with sides greyish hirsute. Elytra gradually widening from base to apex, clear dark blue, becoming greenish towards the suture, uniformly closely and distinctly punctured; apex transversely sinuate truncate, rounded exteriorly and sinuated near the suture; sutural angle forming a distinct tooth.

The other species of *Cicindelidæ* in the collection are—

C. PUNCTATISSIMA, Schaum.

Found also at Amoy.

C. NIVEICINCTA, Chevz.

A Hong Kong species.

C. AURULENTA, Fab.

A widely distributed species in South-eastern Asia.

C. SEMIVITTATA, Fab.

Also widely distributed, from India to Celebes and the Philippines.

C. SEXPUNCTATA, Fab.

Found also in India and the Philippines.

CARABIDÆ.

CHLÆNIUS (*DIAPHEROPSOPHUS*) *SWINHOEI*.

Robustus, supra niger opacus, creberrime punctatus; elytris singulis paulo ante medium macula magna transversa fulva, striatis, striis vix distincte punctatis; antennis medio dilatatis, articulis tribus basalibus rufis; tibiis anticis et intermediis basi extus flavo-testaceis.

Long. $8\frac{1}{2}$ lin., ♂.

Robust, and with stout, moderately short legs. Head large, contracted behind, the eyes (which are prominent) closely punctured, slightly shining, black; labrum, palpi, and antennæ, except the three rufous basal joints, black. Thorax quadrate, with the sides regularly rounded and hind angles indistinct, as wide in the middle as the base of the elytra, very closely and coarsely punctured, dull black; longitudinal line distinct anteriorly; basal depression elongated and shallow. The elytra are striated, and the striæ scarcely perceptibly punctured, except near the base. The fulvous spot of the elytra has its posterior edge in the middle of the elytra, and extends from the eighth to the third interstice inclusive, widest on the sixth, and very narrow on the third. Body beneath shining black, coarsely punctured on the sides; legs black, basal half of anterior and middle tibiæ on the outside flavescent.

This species differs from *C. (Diaph.) mellyi* (Chaudoir), an Indian

species, in the striæ of the elytra being scarcely punctured; the punctures are visible only with a lens, and chiefly near the base. The elytra are also more elongated than in *C. mellyi*. I do not know whether it may not be the *C. planicornis* (Laferté), also an Indian species; but the author has never published its characters.

LAMELLICORNES.

ANOMALA CORRUGATA.

Oblongo-elongata, prope apicem paulo dilatata, supra viridi-ænea testaceo marginata, passim grosse creberrime confluentur punctata; clypeo marginibus elevatis, testaceo; thorace antice vix angustato, medio longitudinaliter impresso; elytris utrinque costis quatuor angustis lævibus; corpore subtus pedibusque rufo-testaceis; abdomine fusco-æneo; tarsis piceis.

Long. $6\frac{1}{2}$ – $7\frac{1}{2}$ lin.

An elongate species, widest close to the apex of the elytra; above fine light brassy green and shining, notwithstanding the coarse confluent punctation with which the surface is covered, with the exception of the suture and ribs of the elytra. The borders of the clypeus, lateral margins of the thorax, and deflexed edges of the elytra are yellowish testaceous. The body beneath and legs are reddish testaceous, with the abdomen darker and brassy, and the tarsi pitchy.

ANOMALA INCONCINNA.

Oblonga, postice dilatata, sordide rufo-testacea æneo tincta, capite thoraceque medio æneis; clypeo reflexo-marginato, grosse confluentur punctato, marginibus rufo-testaceis, vertice minus dense confluentur punctato; antennis piceo-rufis, clava (♀) parva; thorace crebre punctato, nitido, linea dorsali leviter impressa; scutello lateribus grosse punctatis; elytris oblongis (♀), striis 13 fortiter impressis, grosse punctatis, stria secunda a sutura latiore multipunctata, striis 5^{ta} et 8^{va} minus profunde impressis, interstitiis punctatis, colore sordide rufo-testaceis, æneo leviter micantibus; corpore subtus pedibusque passim punctatis, sordide rufo-testaceis, parce pilosis; abdomine æneo micante; unguiculis majoribus, anticis et intermediis apice fissis.

Long. 6 lin., ♀.

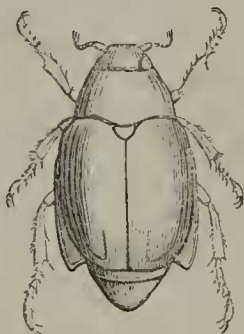
EUCHLORA EXPANSA.

Magna, ovata, convexa, supra viridis leviter aureo micans, minute punctata, glabra; infra viridi-ænea, lateribus tenuiter pubescens, pedibus violaceis, elytris utrinque margine postico in lobum foliaceum reflexum expansis. 12^{lin.}

Large, ovate, and convex; above green, with a slight golden tinge, finely punctulate, less densely so towards the suture of the elytra, and the longitudinal lines very faintly indicated. Beneath the colour is dark brassy green, glabrous, except a few hairs on the sides; legs

violet, tinged here and there with brassy. The hind margin of each elytron, before it curves to the apex, is expanded into a thin reflexed lobe, the underside of which is black.

Fig. 1.

*Euchlora expansa.***EUCHLORA CASTANEOVENTRIS.**

Oblonga, supra viridis paulo micans, infra cum pedibus fusco-castaneis; capite subrugoso-punctato; thorace crebre punctulato; elytris grossius punctatis, hic illic plicatis, lineis longitudinalibus distinctis.

Long. 8–9½ lin.

Distinguished from the allied species by the under surface of the body and legs being of a chestnut hue without any trace of metallic lustre, the tarsi and sometimes the tibiæ being darker. The shape of the body is more oblong than ovate; the pygidium is of the same green colour as the whole of the upper surface. The surface of the elytra is somewhat uneven, the punctures irregular and interrupted here and there with transverse wrinkles, the longitudinal lines of punctures and the ribs which they form are rather distinctly marked.

EUCHLORA TRACHYPYGA.

Elliptica, vix convexa, viridis paulo nitens, crebre æqualiter sed haud grosse punctata; thorace antice valde angustato; elytris a medio distincte angustatis, margine membranaceo latissimo; pygidio magno, fere plano, obliquo, densissime subtiliter punctato-rugoso, opaco; segmento dorsali penultimo nigro; corpore subtus cupreo, pectoris et abdominis lateribus tomentosis; pedibus supra viridibus, infra cupreis.

Long. 10½ lin.

Judging from the description, this species seems to be closely allied to *E. albopilosa* (Hope, Burm.), a Japanese insect; but this is represented as having distinct costæ on the elytra and a hairy pygidium: the remarkable form and sculpture of the pygidium, too, is not noticed. The general form is elliptical and flattened above; the elytra are narrowed from before the middle, and from this point commences the membranous border, which is very broad in this species.

MIMELA SIMPLEX.

Ovata, omnino æneo-olivaceo-viridis, nitidissima; clypeo creberrime, vertice cum thorace minus dense, elytris sparsim punctulatis; elytris interstitiis linearum punctorum lævibus, plicis nonnullis lateralibus; thorace lateribus trifoveolatis.

Long. $9\frac{1}{2}$ lin.

An ovate species, broader than *Mimela splendens*. The entire body and legs uniform olivaceous brassy green, brightly shining. The whole surface is minutely punctured; but the punctures are few and scattered on the elytra, and the spaces between the pairs of longitudinal lines of points are quite smooth; a few transverse wrinkles exist near the sides.

MIMELA IGNICAUDA.

Breviter ovata, supra viridi-ænea nitens, elytrorum marginibus præcipue apicalibus aureo-cupreis; clypeo maris angustissime, fæminæ late testaceo marginato, minute punctulato; thorace lateribus irregulariter late foveolatis, sulco utrinque basali profunde impresso, maris unicolori, fæminæ testaceo marginato; elytris grosse, parum profunde et subsparsum punctatis, interstitiis angustioribus lævibus, latioribus interdum transverse plicatis; corpore subtus obscure æneo-piceo; pedibus maris obscure æneis, femoribus testaceis, fæminæ pedibus testaceis æneo tinctis.

Long. $5-5\frac{1}{2}$ lin.

A small species, broadly ovate in the male, more elongate in the female, with the elytra, in both, dilated near the apex. The colour is dark brassy green, passing gradually into coppery on the sides of the elytra, and of a brilliant golden copper below the apical callus. The thorax is very minutely punctured; but the sides are occupied with a number of shallow irregular depressions, and there is a deep sulcus running obliquely near the hind margin on each side. The male has scarcely any trace of pale-testaceous margins; and, beneath, the femora are only sometimes of this colour; the female, however, has broadish pale margins to the clypeus and sides of thorax, and the under surface and legs are in large part of the same hue. The pygidium is brassy green and sparsely punctured.

MIMELA CHRYSÆIS.

M. splendenti colore similis, sed in utroque sexu oblongior, grossius punctata, oblonga, testacea; capite thoraceque viridi vel aureo-viridi micantibus, nitidissimis; elytris auratis; clypeo densissime rugoso-punctato; thorace grosse subsparsum punctato; elytris grossius punctatis, singulis sutura et costis (non dum elevatis) quatuor lævibus lineis punctorum marginatis; pygidio glubro, splendente, convexo, grosse distincte punctato, punctis rotundis; corpore subtus et pedibus testaceis, viridi-aureo micantibus, pectore lateribus coxisque posticis dense rugoso-punctatis, abdomine interdum cupreo.

Long. $7\frac{1}{2}-9$ lin.

Very similar in general colour and other characters to *M. splendens*, but much more oblong in figure and more coarsely punctured; the punctures of the elytra are large and distinct; the pygidium is convex and covered, but not closely, with large round punctures, its sides are distinctly sinuated, and its surface glabrous and brilliant. The male is relatively shorter and broader behind than the female.

I have compared this species with type specimens of *Mimela chinensis*, Kirby (= *splendens*, Sch.), in Major Parry's collection.

PECTINICORNIA.

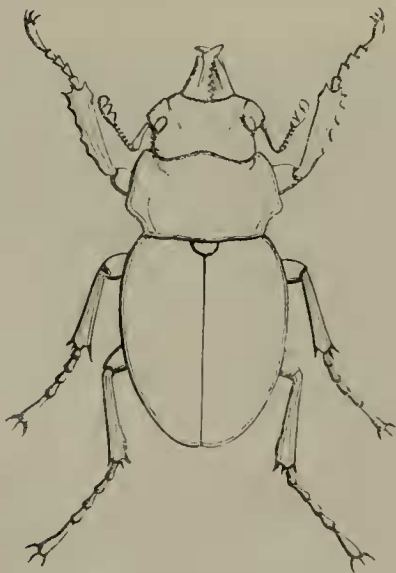
NEOLUCANUS SWINHOEI.

I am indebted to Major F. J. S. Parry for the following diagnosis and description of this fine insect:—

“*Latus, lævis, niger; mandibulis capitis longitudine arcuatis, interne irregulariter serratis, supra ante apicem dente parvo suberecto armatis; capite ad angulos anticos subquadrato; prothoracis angulis posticis subtruncatis; elytris castaneo-fulvis, basi extrema et scutello nigris; tibiis anticis latis, denticulatis, quatuor posticis inermibus.* ♂.

“Long. ♂ (mandib. excl.) 1" 4'''–1" 6'''.

Fig. 2.



Neolucanus swinhoei.

“Closely resembling *N. castanopterus* of Northern India; its general form, however, is somewhat broader, the elytra more elongated, of different convexity, and less rounded at their extremity. The prothorax is wider in proportion, more depressed; head broader, with subquadrate angles more produced, less polished; the form of

mandibles (in well-developed males) is totally different, the apical suberect tooth resembling that of other species found in China, such as *N. sinicus* and *N. championi*."

To this description I will add that the feebly developed males have scarcely any trace of the erect tooth, and therefore do not much differ from the same form in *N. castanopterus*; the side of the head before the eyes remains, however, always much more dilated laterally than in *N. castanopterus*. The convexity of the elytra culminates at one-third of their length, and then gradually slopes to the apex; in *N. castanopterus* the elytra are convex to about three-fourths of their length, and then dip rather abruptly to the apex.

The female resembles the male in colour and form; but the sides of the head are much more dilated exterior to the eyes, and angulated.

ÆGUS FORMOSÆ.

Ægo lævicolli simillimus, differt tantum (♂) elytris ad basin anguste et apud latera late crebre punctatis, interstitio tertio a margine etiam multo latiore.

This apparently common Formosan species is so closely similar to *Æ. lævicollis* of China that it can scarcely be considered more than an insular modification of it. In the punctuation of the elytra it is almost identical with *Æ. capitatus* of Malacca and Borneo; but it differs much from that species in the shape of the thorax, position of the mandibular teeth, and in other points, in which it agrees exactly with *Æ. lævicollis*.

NIGIDIUS PARRYI.

Oblongus, niger, nitidus; capite quam thorax paulo angustiore, lateribus ante oculos rotundato-dilatato haud angulato, fronte depressa sparsim minus grosse punctata; mandibulis (♂) porrectis, apice recurvatis, supra rugoso-punctatis absque dente erecto, intus obtuse dentatis; thorace angulis anticis obtusis, margine laterali antice incrassato, medio valde emarginato, angulis posticis late rotundatis, supra lævi, nitido, sulco dorsali abbreviato rugoso, plaga parva utrinque laterali punctata: elytris late punctato-sulcatis.

Long. (maud. excl.) $11\frac{1}{2}$ lin., mand. $1\frac{1}{2}$ lin. ♂.

A more elongated insect than the other two continental Asiatic species (*N. cornutus* and *N. obesus*), and differing from all the allied species in entirely wanting the erect tooth or horn-shaped dorsal apophysis of the mandibles. The sides of the head are rounded before the eyes, and not produced into a point. The thorax has the lateral margin excavated in the middle. The sulci of the elytra are wide and deep, and have a chain of foveæ, but are destitute of the lines of fine punctures seen in *N. lævicollis*; the interstices are narrow, polished, and impunctate.

NIGIDIUS FORMOSANUS.

Oblongo-elongatus, niger; capite ante oculos dilatato, angulis

acutis, supra lituris parvis curvatis impresso, lateribus rugosis; mandibulis brevibus, intus bidentatis, supra cornu suberecto curvato obtuso armatis, dense foveolatis; thorace lateribus medio emarginatis, supra passim punctato; elytris præsertim dorso minus profunde sulcatis, sulcis fundo serie punctorum ocellarium impressis, interstitiis punctulatis.

Long. (mand. excl.) 6 lin., mand. $\frac{1}{2}$ lin.

Much more slender and proportionally narrower than *N. lævicollis*; head very similar in shape, but the lateral dilatation not so much prolonged or retrocurved, the hind edge from the acute apex being transverse to the axis of the body; surface of the head covered with small semicircular impressions; mandibles thickly, coarsely, and deeply pitted; the dorsal apophysis is directed obliquely forward, curved inwards, and obtuse at the apex. The sulci of the elytra are wide and shallow towards the suture, the foveæ in their bottoms are ocellated and distinct one from the other; the sides of the interstices have a row of fine punctures.

The other species of *Lucanidæ* are:—

ODONTOLABIS CARINATUS, Linn.

A Silhet or North-east Indian insect.

CLADOGNATHUS INCLINATUS, Motschoulsky.

Hitherto known only from Japan.

EURYTRACHELUS PLATYMELUS, Saund.

A Chinese species.

SERRICORNES.

LACON FORMOSANUS.

L. bipapulato simillimus quoad formam et colorem; thorace antice latiore magis rotundato, ante basin magis sinuato angulisque posticis productis quasi lobatis; corpore toto brunneo, tomento fulvo-brunneo plagiatim vestito; capite thoraceque grosse crebre punctatis; elytris grosse striato-punctatis, interstitiis crebre punctulatis.

Long. $8\frac{1}{2}$ lin.

Much resembling *L. bipapulatus* (Candèze, Monogr. Elatér. Suppl. p. 11), a Chinese species, and differing almost solely in the form of the thorax, which is more rounded on the sides anteriorly, more sinuated towards the base, with the hind angles more produced; the latter form almost lobular projections, truncated at their apices.

LACON SETIGER.

Elongatus, postice subabrupte attenuatus, corpore supra setis brevibus erectis brunneis dense vestito; capite grosse et profunde punctato, nigro, fulvo squamoso; antennis rufis, articulis quatuor basalibus piceo-nigris, articulis 2° et 3° subæqualibus

quam 4^{tus} multo minoribus: thorace elongato-quadrato, medio vix dilatato, angulis anticis et posticis late truncatis, supra convexo, profunde punctato, nigro, fulvo-griseo squamoso, maculis duabus rotundatis et vitta abbreviata longitudinali nudis; elytris a medio subabrupte angustatis, striato-punctatis, interstitiis punctulatis, rufo-castaneis, fulvo-griseo nebuloze squamatis; corpore subtus fuliginoso, rugoso, griseo squamato; pedibus piceis.

Long. 9 lin.

This species is remarkable in the genus to which it belongs for the setose clothing of the upper surface of the body. It is one of the most peculiar insects in the collection.

MELANOTUS UMBER.

Modice elongatus, convexior, fuliginosus, subnitens, pube aureo-fulva subdecumbente minus dense vestitus; capite parvo, supra convexo, crebre punctato, nitido, carina frontali fortiter curvata; antennis piceo-rufis; pedibus pallide rufis; thorace valde convexo, dense nec grosse punctato, lateribus antice modice rotundatis; elytris minus nitidis, aspere punctulatis, fortiter punctato-striatis; corpore subtus concolori.

Long. 7 lin.

MELANOTUS TAMSUYENSIS.

Elongatus, depressus, piceo-fuliginosus, subnitens, pube grisea suberecta minus dense vestitus; capite supra grosse crebre punctato, carina frontali late rotundata, epistomate cum labro fuliginosis, palpis piceo-rufis; antennis omnino fusco-piceis; pedibus piceo-rufis; thorace lateribus subrectis, antice paulo angustato, supra vix convexo crebre punctato; elytris striato-punctatis, interstitiis punctulatis; corpore subtus piceo-fuliginoso.

Long. 7½ lin.

SILESES MUTABILIS.

S. absimili vicina, colore variabilis, testacea cum thoracis disco nigricante, vel brunneo-testacea, vel obscure fusca thoracis angulis posticis solum obscure testaceis, vel denique tota nigro-fusca; pube grisea decumbente vestita, nihilominus nitida; capite thoraceque dense punctatis; elytris punctato-striatis, interstitiis punctulatis; pedibus rufo-testaceis; antennis piceis, articulis basalibus rufis.

Long. 2½–3 lin.

Much resembles *S. absimilis* (Cand. Mon. Elatér.), a Hong Kong species; differs in being more slender and very variable in colour. There are a dozen specimens in the collection, no two of which are alike in respect of colour. The pubescence is not very dense; and the surface is shining, especially the disk of the thorax, which is very glossy.

The following Chinese species of *Elateridae* are also contained in the collection :—

CAMPTOSTERNUS FULGENS, Fab.

AGRYPNUS POLITUS, Candèze.

AGONISCHIUS OBSCURIPES, Gyll.

All three found also in Cochin China, the Himalayas, &c.

HEMIOPS FLAVUS, Laporte.

Also Malay archipelago, Himalayas, &c.

MELANOXANTHUS MELANOCEPHALUS, Thunb.

Widely distributed over the tropical parts of the Old World.

LONGICORNES.

PHILUS PALLESCENS.

Elongatus, subcylindricus, pallide fusco-cervinus, pube pallida subdecumbente vestitus; capite pone oculos elongatulo et leviter angustato, supra creberrime punctato; oculis magnis; tuberculis antenniferis incrassatis; antennis leviter serratis, rufo-cervinis, articulis 3^{tio}-11^{imum} subæqualibus, maris corpore multo, fæminæ paulo, longioribus; thorace parvo, subrotundato, supra inæquali, crebre punctato; elytris subcylindricis, maris apice subacuminatis, supra minute crebre punctatis, carinulis indistinctis dorsalibus duabus; corpore subtus pedibusque obscure rufo-cervinis, articulo ultimo tarsorum tenui.

Long. 8-9 lin., ♂ ♀.

Differs from the North China *Philus inconspicuus* (Saunders) by its paler colour, much less hirsute body, and longer and slenderer antennæ, especially in the female.

ERYTHRUS FORMOSANUS.

E. championi similimus, multo magis elongatus, scutello nigro; capite supra, antennis, corpore subtus (capite prothoraceque rufis exceptis) et pedibus nigris; thorace tuberculis duobus solum nigris; elytris elongatis, apice serratis, angulo suturali spiniformi, medio unicastatis.

Long. 9 lin.

Closely allied to *E. championi* (White, Cat. Long. Brit. Mus. p. 142, pl. 4. f. 4) of Hong Kong, but much more elongated, and the scutellum black instead of red. The face is clothed with reddish hairs.

PRAONETHA BINODOSA.

Elliptica, convexa, cinerea, fusco varia; capite dense cinereo-cervino tomentoso; antennis corpore multo brevioribus, obscure fuscis, articulis basi cinereis, articulis 3^o et 4^o elongatis infra curvatis; thorace cylindrico, elytris multo angustioribus; dorso

paulo convexo, punctato, cinereo, lateribus late fuscis; elytris subtrigonis, convexis, apice truncatis, supra lineatim grosse punctatis, bicostatis, prope basin tuberculo magno compresso apice cristato, fusco et cinereo variis, prope apicem macula magna communi cinereo; corpore subtus pedibusque fusco et cinereo variegatis.

Long. $4\frac{1}{2}$ lin.

The species which the present one most resembles in this extensive genus is *P. bigibbera* (Newman) of the Philippine Islands.

PRAONETHA KALEEA.

Elongato-elliptica, modice convexa, fusca, elytris lateribus plaga magna et disco pone medium macula transversa cinereo-albis; capite tomento fulvo vestito, vertice late depresso; antennis corpore multo brevioribus, cinereo et fusco maculatis, articulo basali infra valde planato, tertio et quarto rectis; thorace parvo, quadrato, fusco-cinereo nebuloso; elytris oblongis, prope apicem angustatis, apice ad suturam breviter oblique truncatis, supra grosse et crebre sublineatim punctatis, bicostatis, tuberculo basali paulo elevato nigro; corpore subtus pedibusque fuscis, cinereo variegatis.

Long. 3 lin.

ROPICA FORMOSANA.

Elongato-elliptica, capite et thorace elytris angustioribus, cinereo-fulva, passim punctata; thorace lateribus paulo rotundato, fulvo bivittato; elytris oblique breviter truncatis, pone medium utrinque macula discoidali pallide cinerea.

Long. 4 lin.

More elongate than the typical species, but of the same elliptical general outline; head and thorax of equal breadth and narrower than the elytra. Closely punctured; elytra more coarsely so, and clothed with dingy ashy-fulvous tomentum, with two clearer tawny stripes along the dorsal surface of the thorax, and a rounded discoidal ashy spot on each elytron, a little after the middle. The elytra are elongate-elliptical, and have the apical margins abruptly flattened out, with the apex obliquely truncated. Antennæ a little longer than the body; joints gradually diminishing in length from the fourth, and of a uniform ashy brown. Body beneath and legs dingy ashy. Claw-joint of the tarsi long and strong, with claws semidivergent.

SYBRA PUNCTATOSTRIATA.

Elongata, sublinearis, depressa, capite thoraceque grossissime subdense punctatis, elytris punctato-striatis, stria suturali valde impressa; sordide cinereo-fusca, thorace fulvo indistincte quadrivittato; elytris lateribus fulvo strigatis, apice valde oblique subsinuato-truncatis.

Long. $4\frac{1}{2}$ lin.

Belongs to the second section of the genus, as divided by Mr. Pascoe, in which the elytra have the apex "wedge-shaped, with the

sutural side concave." The body above is covered with very large punctures, which are irregular and rather close together on the head and thorax, and arranged in regular, slightly impressed rows on the elytra; the sutural row deeply sunk. The elytra are dingy ashy brown, with dull fulvous streaks along the interstices, and a few rounded scattered ashy spots. Body beneath, legs, and antennæ dull ashy brown.

SYBRA BACULINA.

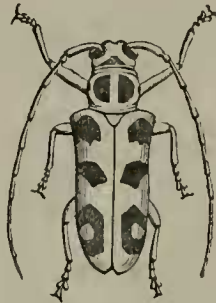
Elongata, apicem versus attenuata, depressa, fusco-cinerea, vittu lata thoracis alteraque suturali elytrorum obscure fuscis; capite sparse punctato, fulvo-cinereo tomentoso, tuberculis antenniferis elevatis intus acutis; antennis fuscis, articulis basi cinereis; thorace subcylindrico, supra postice depresso, grosse crebre punctato; elytris apices versus attenuatis, apice breviter oblique truncatis, supra regulariter striato-punctatis, cinereo-fuscis, vittu lata suturali a basi usque pone medium obscure fusca; corpore subtus pedibusque sordide fusco-cinereis.

Long. $2\frac{3}{4}$ lin.

PARAGLENEA, nov. gen.

A Glenea differt hoc genus novum elytris apice rotundatis, simplicibus. Typus Glenea fortunei, e China septentrionali.

Fig. 3.



Paraglenea swinhoei.

PARAGLENEA SWINHOEI.

Elongata, parallelogrammica, supra depressa, tomento late viridicinereo vestita, maculis duabus thoracis, et tribus elytrorum, scilicet una transversa laterali subbasali, altera obliqua ante medium alteraque magna annuliformi ante apicem, nigris; corpore subtus pedibusque late viridicinereis; antennis filiformibus, nigris, articulis basalibus viridicinereo maculatis.

Long. $6\frac{1}{2}$ –8 lin.

This species is very distinct from *P. fortunei* (Saund. Trans. Ent. Soc. 2nd ser. ii. pl. 4. f. 1), the only other as yet known of the genus, both in its form of body and markings, although there is a great general resemblance, and the colours are clear pale ashy green and

black in both. The antennæ in both sexes of *P. swinhoei* are longer than the body; the thorax is scarce perceptibly narrowed behind; and the elytra taper towards the apex extremely little in either sex; the spots on the disk of the thorax are large and nearly semicircular, being separated by a narrow line; the deflexed margins of the elytra have a black streak between the second and third black spots. There is a small black patch on the occiput; otherwise the head is wholly light green.

PHYTOPHAGA.

LEMA POSTREMA.

Oblonga, ferrugineo-flava; antennis (articulo basali excepto), tibiis apice et tarsiis nigris, elytris cæruleis; thorace medio valde angustato, sulco dorsali obsoleto, foveola prope marginem posticum impresso, supra sparse distincte punctato; elytris oblongis, pone scutellum transverse depressis, lateribus subplicatis, punctis validis in seriebus decem ordinatis, interstitiis lævibus; corpore subtus nudo.

Long. $3\frac{1}{2}$ lin.

LAMPROSOMA ALIENUM.

Parvum, breviter ovatum, modice convexum, nigrum, nitidum, glabrum, supra regulariter haud profunde punctatum; occipite paulo convexo; fronte subplana, lævi, linea longitudinali impressa; antennis prothorace brevioribus, nigris, articulis duobus basalibus magnis, 3^{to}-6^{tum} tenuibus, cæteris gradatim incrassatis; thorace ante scutellum producto acuto, scutello latiusculo triangulari; corpore subtus pedibusque nigris nitidis, prosterno medio angustato.

Long. $1\frac{1}{3}$ lin.

This is one of the most interesting insects in the collection, being the only Asiatic species at present known of a genus almost peculiar to America. The only exception to the purely American range of the genus hitherto made known was the European *L. concolor*. The present species is more nearly allied to the typical forms of *Lamprosoma* than that insect, having the median projection of the hind margin of the thorax more pronounced and pointed. The scutellum, however, is broader than in the *Lamprosomæ*, forming nearly an equilateral triangle, and plane on the surface. The antennæ are shorter than the prothorax, and gradually clavate from the sixth joint. The prosternum is formed as in the *Lamprosomata*, but is much narrower than is customary.

CHLAMYS FORMOSANA.

Parva, breviter oblonga, castanea, corpore subtus nigro opaco; capite crebre grosse punctato, fulvo; antennis basi fulvis; thorace elevato, elevatione simplici, rotundata, utrinque a limbo postico-laterali distincte separata, crebre grosse punctato, disco antice lineis nonnullis brevibus elevatis, colore nigro, fulvo et rufo-castaneo variegato; scutello nigro; elytris grossissime punctato-rugulosis, costis transversis flexuosis irregularibus utrinque circa 8, colore rufo-

castaneis, partibus depressis obscurioribus, sutura nigra; corpore subtus nigro opaco, creberrime foveolato; abdomine castaneo maculato; pedibus rufo-castaneis; pygidio vage punctato, lineis elevatis longitudinalibus tribus.

Long. $1\frac{1}{2}$ lin.

CRYPTOCEPHALUS SWINHOEI.

Breviter oblongus, niger, parum nitidus, subtus pilis brevibus argenteis subsparsum vestitus, antennarum articulis tribus basalibus, labro et palpis rufo-testaceis nitidis; capite punctis grossis sparsis, ad margines densioribus et in rugis confluentibus, medio fovea oblonga; thoracis marginibus antico et lateralibus stria profunda impressa, unguis posticis longe productis, dorso lævi, limbo laterali leviter punctato; elytris striato-punctatis, punctis postice subobsoletis, interstitiis planis lævibus.

Long. 2 lin.

AORIA QUINQUEMACULATA.

Subquadrata, convexa, castaneo-rufa, pilis cinereo-argenteis vestita; capite thoraceque grosse et dense punctatis, hoc medio macula magna nigra; elytris striato-punctatis, interstitiis (maculis posticis exceptis) punctatis, maculis quinque (scilicet una utrinque medio basis, altera communi medio suturuli alteraque utrinque subdiscoïdali pone medium) nigris; pedibus valde elongatis, rufis; antennis pallide rufis; pectore, lateribus, coxis posticis et maculis abdominis nigris.

Long. $2\frac{3}{4}$ lin.

Mr. Baly has received this species also from the north of China.

LINA FORMOSANA.

Oblonga, postice vix dilatata, paulo convexa, late viridi-ænea, antennis (articulis apicalibus fuscis exceptis) pedibusque flavis; capite medio late depresso, irregulariter subruguloso-punctato; thorace supra inæquali, irregulariter (lateribus grossius) punctato; elytris dense punctatis; corpore subtus æneo, nitido, lævissimo, abdominis margine testaceo.

Long. 3 lin.

Allied to the European *L. æneu*; but distinguished by the yellow legs and base of antennæ.

HISPA CALLICANTHA.

Oblonga, nigra, elytris chalybeo-nigris subnitidis; capite subtiliter ruguloso, opaco, medio canaliculato; antennis subclavatis, nigris opacis, articulo basali supra prope apicem spina longa flexuosa armato; thorace crebre fortiter ruguloso, medio sulco longitudinali brevi sublævi, postice transverse impresso, antice spinis duabus a basi furcatis, lateribus spina antica furcatu alteraque posteriore simplici; elytris foveolis magnis seriatim ordinatis, marginibus spinis acutis porrectis in serie regulari ordinatis, disco spinis

utrinque circa 25 a tuberculis orientibus; corpore subtus pedibusque nigris opacis.

Long. $2\frac{1}{4}$ lin.

ADORIUM CHRYSOMELOIDES.

Ovatum, flavum, antennis pedibusque piceis, capite maculisque quatuor thoracis transverse ordinatis nigris; elytris viridi-cæneis nitidis, dense punctatis.

Long. 4 lin.

Ovate, yellowish shining; middle of breast and abdomen darker, reddish; the abdomen with a row of black spots down each side; femora and base of antennæ pitchy red; the rest of the antennæ, tibiæ, and tarsi darker and blackish. Head shining black, with a very few punctures in a depression between the eyes. Thorax glossy and very faintly punctured, with four large black spots arranged in a row across the middle, and having a smaller spot behind between the two middle ones. Scutellum glossy, dark red. Elytra ovate, not much wider than the thorax at the base; epipleuræ narrow and plane, thickly but not coarsely punctured, shining dark brassy green.

SEBÆTHE BALYI.

Breviter ovata vel suborbicularis, testacea, glabra; elytris macula supra callum humeralem, altera prope scutellum alteraque majore subapicali nigris (macula scutellari interdum majore et per suturam continuata, vel absente); antennis longitudine corporis, nigris, articulis duobus basalibus rufo-piceis; capite sulco transversali inter oculos; thorace impunctato, limbo laterali explanato; margine reflexo, ad angulos anticos incrassato; elytris subtilissime punctulatis.

Long. 2- $2\frac{1}{2}$ lin.

The genus *Sebæthe* (subfam. *Halticinae*) was described by Mr. Baly in the 'Annals and Magazine of Natural History' for December 1864.

6. List of Lepidopterous Insects collected at Takow, Formosa, by Mr. Robert Swinhoe. By ALFRED R. WALLACE, F.Z.S., and FREDERIC MOORE.

This small collection comprises forty-six species of diurnal, and ninety-three of nocturnal Lepidoptera, and bears internal evidence of having been chiefly formed in a cultivated district. It cannot, therefore, be taken as furnishing any adequate idea of the productions of the island of Formosa in this order of insects. The large majority of the species are those which are widely spread over the Eastern Tropics, and they generally present no striking differences from specimens collected in India or the Malay islands. There are not wanting indications, however, that a rich harvest of these beautiful insects could be obtained in the forests of the interior; for the only two